The Coal Office Building
Ocean Square
The Harbour
Saundersfoot
SA69 9HE

An Ecological Survey Report By:

Just MAMMALS Consultancy
Limited Liability Partnership

On Behalf Of:

Saundersfoot Harbour

June 2018

Client	**The Harbour Commissioners**
Project Name	**The Coal Office Building, Ocean Square, The Harbour, Saundersfoot SA69 9HE**
Report Title	**An Ecological Survey Report**
File Reference	**BAT3917**

Status	Signed	Name	Position	Date
Author		**Diane J Morgan BA (Hons) ACIEEM**	**Senior Ecologist**	**29 May 2018**
Reviewer		**Phillip L Morgan CEnv MCIEEM**	**Principal Ecologist**	**1 June 2018**

Members: Phillip Morgan CEnv MCIEEM Diane Morgan BA (Hons) ACIEEM
Carola Hoskins BA (Hons) MSc ACIEEM Robert Morgan
Issuing Office: Suite 131 -136, Plas y Ffynnon, Cambrian Way, Brecon LD3 7TG
Web Site: www.justmammals.co.uk **E-Mail:** diane@justmammals.co.uk **Telephone:** 01874 623616
Registered In: Cardiff **No:** OC345272 **Registered Address:** Llys Newydd, Llanfihangel Talyllyn, Brecon LD3 7TG
VAT No: 821 6376 35

Contents

List of Tables

List of Figures

List of Plates

1 Executive Summary

1.1 It is proposed to create a new heritage and historical interpretation centre, incorporating the former Coal Office building at Saundersfoot Harbour. The proposals are quite extensive, but will allow use of a currently redundant structure to benefit tourism in Saundersfoot.

1.2 As the proposal requires planning consent, a preliminary ecological appraisal was undertaken of the site, in compliance with local authority requirements and BREEAM criteria. Survey was undertaken in early December 2017 by two experienced ecologists. The appraisal found that the former Coal Office building is a bat roost, with pipistrelle type bat droppings being found in the main loft space. One bat dropping was also found which indicated the presence of a second bat species, but it was not possible to confirm the species with certainty. Further, based on the evidence to hand, no firm conclusions could be drawn on the type of bat roost which might be present without additional survey effort. Additional targeted observations were therefore recommended.

1.3 Two dusk emergence/activity observations were conducted in May 2018, several weeks apart. Whilst conditions were still cool in early May, later in the month an extended warm period had resulted in rapid vegetation growth and abundant insect life. During both dusk observations no bat emergence behaviour occurred, and no activity was recorded in surveys. DNA analysis of a sample of collected droppings from the loft space provided an identification of brown long-eared bat. With no additional information obtained from the observations, it is concluded that the loft space is an occasional day roost for brown long-eared bats, and also a pipistrelle species – either common or soprano. Recommendations are made based on this outcome.

1.4 When the nature conservation significance of the building is considered against recognised criteria (Bat Mitigation Guidelines 2004 and Good Practice Guide: NRW Approach to Bats and Planning October 2015), the nature conservation status of the site is assessed to be low, due to the presence of common species – brown long-eared and a pipistrelle species of bat. The scale of the impact of the development will affect a small number of animals, with a low risk of detrimental impacts to the conservation status at a local level.

1.5 Bats are fully protected in British legislation from the impacts of disturbance, as well as loss and damage to roost locations; and loss of access or obstructed bat access. If the repair and renovation of the Coal Office building results in impacts of this nature, then in addition to planning consent, they will need to obtain a European Protected Species (EPS) licence from Natural Resources Wales, prior to commencing any works affecting the loft space and roof structure. However, if the loft space is retained in its current size and status, retaining bat access points, and repairs to the attic rooms and re-roofing work is kept to the winter period when disturbance of bats is avoided, the work will not need to an EPS licence.

1.6 In terms of the other interest of the site, the survey revealed the presence of 43 common and widespread plants, including many garden cultivars. Several semi-mature trees are also present, which result in the side being of moderate ecological value. The presence of species such as badger, dormouse and reptiles and amphibians is considered to be very unlikely, birds are present, and house sparrows, a red list species, are using the original Coal Office building and are nesting in several locations.

1.7 Recommendations are made within this report, which are relevant to the final development scheme as a consequence of the preliminary ecological appraisal and the targeted bat survey. Advice is given for measures to avoid the need for an EPS licence, but if it is not possible to adhere in full to a bat friendly approach for the timing, materials and the scope of renovations works, then an EPS licence must be obtained from Natural Resources Wales before work affecting the bat roost area of the loft space commences.

2 Introduction

2.1 Saundersfoot Harbour Commissioners are proposing to redevelop the former Coal Office building and adjacent garden to create a new focus for Saundersfoot, including a visitor facility, and heritage and historical interpretation centre. The Coal Office, which is located at National Grid Reference (NGR) SN 13650 04835, at some 8m Above Ordnance Datum, has been left largely unused for some time. The attached building, a flat roofed single storey structure accessed off Cambrian Place, is used by a number of small commercial businesses. The property is in a prime location close to the sea front and harbour, and overlooking Carmarthen Bay.

2.2 The development, known as Ocean Square, will allow visitors to understand the importance of Saundersfoot historically, and its links to the coal trade. The proposals will require extensive refurbishment of the Coal Office, demolition of the flat roofed single storey shops, and redevelopment of the adjacent garden area (at the southern end of the Coal Office), to create the new centre.

2.3 As part of the process of informing the planning and development process, the Just Mammals Consultancy LLP was engaged to carry out a preliminary ecological appraisal, also known as a Phase 1 habitat assessment of the site. The survey to be carried out to Building Research Establishment Environmental Appraisal Methodology (BREEAM), criteria.

2.4 A preliminary ecological appraisal was carried out in early December 2017, and involved assessing the different types of habitat present, as well as seeking to identify the potential presence of protected species, such as bats, hazel dormice (*Muscardinus avellanarius*), badgers (*Meles meles*), reptiles and amphibians, as well as nesting birds.

2.5 Following the finding of bat droppings in the roof area of the building, it was recommended that additional survey be undertaken in the form of two dusk emergence/activity observations. These were subsequently commissioned and undertaken in May 2018, by a small team of experienced observers. The objectives of the additional survey were to:

- determine if bats are present in the building;
- determine the species of bat present, and consider their behaviour;
- identify any important bat flight or commuting routes;
- determine if breeding birds are using the buildings;
- identify potential impacts, if any, from the proposals, and to;
- gather sufficient information to be able to make appropriate recommendations in order to minimise any impacts.

2.6 This report contains the results and recommendations of both the preliminary ecological appraisal and the follow up surveys.

3 Survey Team Experience

3.1 Lead surveyor, and co-author of this report, was Phil Morgan. Phil is a licenced bat worker/ecologist. He was assisted in the appraisal effort by a small team of ecologists, details of which are given in Table 1 below.

Table 1: Survey Team Experience

Name/Position/Detector	Licences	Experience
Phil Morgan CEnv MCIEEM Principal Ecologist (TE)	78239:OTH:CSAB:2018 valid until 31st January 2020	Over 35 years' experience of undertaking building, tree and cave surveys for all bat species. In addition he has undertaken foraging and flight line surveys using heterodyne and other echo-location equipment and in 1991 made a significant contribution to a Bristol University run project, which established the methodology used in the National Bat Monitoring Programme. Phil has also undertaken numerous radio tracking exercises on both lesser horseshoe and Daubenton's bats, and is licenced to train ecologists to work with bat species. He holds Natural Resources Wales (NRW) licence for other protected species including dormice, otter, and great crested newt. Phil is a Principal Ecologist with the Just Mammals Consultancy LLP, and is a Member of the Chartered Society for the Environment (CEnv), as well as being a Member of the Chartered Institute for Ecology and Environmental Management (MCIEEM)
Diane Morgan BA (Hons) ACIEEM Senior Ecologist (TE)	78057:OTH:CSAB:2018 valid until 31st January 2020	Licenced bat ecologist of over 20 years, with considerable experience of surveying built structures for bats. She has carried out ringing of Daubenton's bat as part of a multi-year project on the species and has undertaken monitoring work on several important lesser horseshoe bat roosts and assisted in radio tracking projects on the same species. She also holds a licence for ringing greater horseshoe. Other areas of interest include otter, dormice, water voles, reptiles, amphibians, fungi and crayfish. Diane is a Senior Ecologist with the Just Mammals Consultancy LLP and an Associate Member of the Chartered Institute for Ecology and

		Environmental Management (ACIEEM)
Robert Morgan Ecologist (TE)	78046:OTH:CSAB:2018 valid until 31st January 2020	Over ten years' experience with bats (Natural Resources Wales [NRW] licence holder), carrying out roost surveys, emergence surveys, radio tracking of lesser horseshoes and monitoring of important sites. Rob has expertise in respect of dormice with 22 years' experience monitoring dormouse boxes at a Local Nature Reserve and surveying for dormice at various other sites (NRW licence holder). Recently licenced to disturb barn owls listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) with six years' experience surveying for this species (NRW licence holder). Rob has experience surveying for otters, water voles, reptiles, amphibians, birds and marsh fritillary butterfly, and is an Ecologist with the Just Mammals Consultancy LLP
Phoebe Williams BA (Hons) Survey Assistant (TE)		A Geography graduate from the University of Exeter, and a former trainee at Gwent Wildlife Trust, Phoebe has completed a Natural Talent training scheme, studying hemiptera (bugs), at the National Museum of Wales. Practical experience includes survey work for dormice, botany, newts, reptiles, and invertebrates. She has also carried out practical habitat management work, and has gained public engagement experience whilst volunteering for the Trust, and is a Survey Assistant with the Just Mammals Consultancy LLP
Jim Hoskins Survey Assistant (TE)		Jim is an experienced Survey Assistant with the Just Mammals Consultancy LLP. He has four years survey experience with bats, observing both buildings and trees

4 Survey Methodology

4.1 A day time visual assessment of the Coal Office building was carried out on Monday the 11th of December 2017, which involved an inspection of the loft and upper floor areas of the structure. The internal survey searched for the presence of bats or the remains of dead bats (including dead juveniles and babies, which might indicate the presence of a maternity site), and signs of bats including bat faeces (droppings) on floors, stored items, and other surfaces. Staining on timbers caused by oil from bat fur was also searched for, as well as discarded fragments of insects such as moth wings. The ridge areas, which are favoured roost location, were checked for live bats. Beneath this line, a careful search for droppings and insect parts was conducted. At the same time as the structure was examined for the presence of bats, other protected species and breeding birds were considered.

4.2 The external survey involved examining outer surfaces from the ground and looking for signs of bat presence, including bat faeces (droppings) on walls, ledges, doors and sills. A high-powered lamp was used to examine potential access and roosting areas. Any gaps or crevices in the structure were inspected as closely as possible. The context of the building within the surrounding landscape was also assessed at this time.

4.3 Survey of the surrounding land involved a walkover assessment of the site, using the Phase 1 Habitat Survey methodology. This is a standardised technique for classifying and mapping British habitats. All areas within the site were inspected and assessed for indicators of ecological value, including the presence, and/or field signs of any protected or rare habitats and species. The site was walked over, recording plant species, and features on a custom-made recording sheet. Habitats and notes were drawn onto a map of the survey site and photographs were taken. A coloured Phase 1 habitat map was produced which can be found in Appendix V.

4.4 Assessment for the presence or potential presence of other protected species, including hazel dormouse, badger, reptiles and amphibians, was also undertaken by considering the features of the site. The potential suitability of the site for nesting birds was also considered. Details of the survey activities, and weather conditions, are provided in Table 2.

4.5 Two dusk bat emergence/activity observations were undertaken in the summer survey period. The surveyors were equipped with Pettersson D-240X machines. These devices are particularly sensitive and excellent at separating species which employ the middle range frequencies for foraging (45 – 55 kHz). They are therefore very good at identifying the different pipistrelle species (*Pipistrellus sp.*) and the different myotid bats* (*Myotis sp*.) (*myotid bat is a collective term used where the species could not be specifically identified beyond this broad group). The myotid group encompasses seven species of British bat including Alcathoe's (*Myotis alcathoe*);

Bechstein's (*M. bechsteinii*); Brandt's (*M. brandtii*); Daubenton's (*M. daubentonii*); Mouse-eared (*M. myotis*); Natterer's (*M. nattereri*); and the whiskered bat (*M. mystacinus*).

4.6 The Pettersson D-240X machine can be used in heterodyne or time expansion modes and for the purposes of this survey, only the time expansion facility was used. The received signals were then recorded to Roland RO-5 recording devices for later analysis. The time expansion method is similar to making a high speed tape recording of a bat's ultrasonic call and then playing it back at a slower speed. Digital technology is used to make the recording and slow it down for play back. Since the signal is stretched out in time, it is possible to hear details of the sound not audible with other types of detector.

4.7 Time expansion is also the only technique which preserves all characteristics of the original signal, which makes time expanded signals ideal for sound analysis. In addition to the simple echo-location calls which can be used for commuting, enabling the bat to find its way about, bats will also produce feeding 'buzzes' when foraging. These buzzes occur when the bat closes in on its prey and are a consequence of the Doppler Effect, which results in a feeding 'buzz' as the reflected signal shortens when the animal approaches its prey. Such buzzes are used to assess the importance of an area for foraging. The recorded echo-location calls are then interpreted using BatSound sound analysis software. By use of the software it is possible to separate the different species by analysis of the sonograms produced.

4.8 Nesting birds were also considered at the time of the survey visits, with the surveyors looking for signs of bird activity, nest building, feeding at nest sites, and evidence of collections of bird droppings, feathers, or any other indications of use by birds.

5 Site Description

5.1 The survey site occupies a prominent position in the town centre, close to the quayside and the historic harbour. The front elevation of the former Coal Office building faces east, directly overlooking the quayside car park. The rear of the building faces onto Cambrian Place. At the north end of the building is an area of hard standing, and beyond this is a small sensory garden. This sensory garden is outside the ownership of the Harbour Authority and not included within the survey area. At the south end of the Coal Office building is an open garden area contained within a low stone perimeter wall with public access.

5.2 An amenity grassland, which is managed by mowing, is the main feature of the garden on the southern side of the Coal Office. The grassland contains a central flower border, with borders of introduced cultivated shrubs, paths and paving around the edges and against the perimeter wall. Other features are a fast food kiosk at the south-east corner, several timber picnic tables, and a small number of semi-mature trees which stand close to the boundary wall along the southern and eastern sides. The trees have been planted as a memorial to local people who died in the conflicts in Europe and the far-east and for the purposes of this report, is referred to hereafter as the Memorial Garden.

5.3 The original Coal Office appears to have been a relatively simple rectangular structure extending to three storeys, and with a timber-framed pitched roof. This layout is shown on the Ordnance Survey map for the area dating back to 1855. The building is constructed in stone, on a roughly north-east/south-west alignment, but is referred to hereafter as north/south orientation for reporting purposes. The top (second) floor of the building comprised attic rooms, with a small loft area above. The building appears to have been extended shortly after initial construction (although possibly part of the original construction), with two wings, extending west towards Cambrian Place, and also extending two three storeys, with pitched roof, attic and loft spaces etc. The internal room arrangement is complex on all floors, and where appropriate, more detail is given in the following sections.

5.4 A further addition to the building (which again may be part of the original construction) is a two storey entrance lobby/porch, which projects east towards the former coal yard (present car park). This feature is centrally positioned on the eastern aspect of the Coal Office, and the pitched roof ties into the roof of the main or original building. All roof areas of the Coal Office are covered with slate, topped with clay ridges. There is no lining membrane on the roof beneath the slate covering. Fibreglass insulation is present on the floor of the loft space. Four chimney stacks project beyond the roof tops and these are constructed from brick, with lead flashing at the junctions with the slates. Barge boards, soffits, door and window frames are a mixture of timber and uPVC, with the exterior stonework having been whitewashed. Rainwater goods appear to be

a mixture of cast iron and/or plastic, and at the time of survey, there were festive light around the exterior of the structure.

5.5 At some point, probably the 1950's, a flat roofed rectangular extension was added to the building to the west, onto Cambrian Place. This structure is singly storey with cement rendered walls with crenellations along the tops of all walls. The materials used to build this part of the structure could not be determined, but it is likely to be brick or cement block. The flat roof of this element is covered with a concrete roof, edged with lead flashing, and covered with a bitumen paint finish. This element is separated into a number of shop/café/restaurant units, with their respective frontages onto Cambrian Place.

6 Desktop Study

6.1 A desktop study was undertaken, which involved a standard search area covering a 2km radius from the site (using a central grid reference), using the MAGIC website. Details of statutory sites designated for nature conservation were obtained.

6.2 The search returned details of five designated sites. These included Waterwynch Bay to Saundersfoot Harbour Site of Special Scientific Interest (SSSI), some 103m to the south of the Coal Office; Saundersfoot to Telpyn Coast SSSI, 84m to the north-east; Carmarthen Bay Special Area of Conservation (SAC), also 84m north-east of the Coal Office; Carmarthen Bay Special Protection Area (SPA), some 430m to the east. The Bristol Channel Approaches, candidate SAC (cSAC), also lies within the 2km search radius. There are no National Nature Reserves (NNR) or Local Nature Reserves (LNR) within the search radius.

6.3 A record search centred on the same grid reference was commissioned from the West Wales Biodiversity Information Centre (WWBIC), the local records centre. A search for protected and other notable species within a radius of 2km was conducted. The search returned a total of 2111 records, with no records relating to the application site itself.

6.4 Records for bats; specifically, common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), and noctule (*Nyctalus noctula*), were returned within 500m. Other species recorded to be present within 500m were slow-worm (*Anguis fragilis*), grass snake (*Natrix natrix*), adder (*Vipera berus*), badger (*Meles meles*), and hedgehog (*Erinaceus europaeus*). Additional records returned from further afield, up to and including 2km comprise lesser horseshoe bat (*Rhinolophus hipposideros*), greater horseshoe bat (*Rhinolophus ferrumequinum*), brown long-eared bat (*Plecotus auritus*), Daubenton's bat, and Natterer's bat. Many records of birds within 2km were also returned, including kestrel (*Falco tinnunculus*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*), peregrine falcon (*Falco peregrinus*), swift (*Apus apus*), swallow (*Hirundo rustica*), and house martin (*Delichon urbicum*).

7 Survey Constraints

7.1 The principal constraint was the time of year when the preliminary ecological appraisal was conducted. Although the site is adjacent to the sea, and therefore in a relatively mild climate zone, many plants have died back by December, so making positive identification can be difficult. At any given time of year, it will not be possible to identify all plant species by conducting a single visit. Short sward height, and the weather conditions of late autumn/winter can hinder identification of specimens. This being said, it is possible to classify habitats and identify some species outside the main survey period. The whole of the site was accessible for survey and access to the site was possible at all times.

7.2 It was not possible to access the small loft area above the entrance lobby/porch element at the front of the Coal House. Consequently, it is not possible to state if bats are present in this loft area or if there is potential for bats to use this part of the structure.

8 Survey Results

8.1 The development site was visited on Monday the 11th of December 2017, by two experienced ecologists. Details of the survey and conditions under which it was undertaken are given in Table 2 below. Wind speeds given employ the Beaufort scale.

Table 2: Summary of Survey Activity and Weather Conditions

Date	Survey Type	Timing	Weather Conditions
11/12/2017	Preliminary Ecological Appraisal (PM, DM)	12.00 – 13.40 hours Greenwich Mean Time (GMT)	Air temperature: 5°C Cloud cover: 0/8 oktas Conditions: Dry Wind speed: F0, calm
02/05/2018	Dusk emergence/activity observation (PM, DM, RM)	20.00 – 21.55 hours British Summer Time (BST) (Sunset 20.44 hours)	Air temperature:11 – 10°C Cloud cover: 0/8 oktas Conditions: Dry Wind speed: F2, light breeze
22/05/2018	Dusk emergence/activity observation (PM, JH, PW)	20.30 – 22.30 hours BST (Sunset 21.16 hours)	Air temperature: 18 – 15.5°C Cloud cover: 0/8 oktas Conditions: Dry Wind speed: F3, gentle breeze
Surveyors	Phil Morgan (PM), Diane Morgan (DM) , Robert Morgan (RM), Jim Hoskins (JH), Phoebe Williams (PW)		

8.2 The surveyors walked over the site making notes of the plant species observed on a custom-made recording sheet. Digital photographs were also taken to illustrate this report. To comply with the requirements of the BREEAM assessment process, the site is divided into four habitat types: hard surfaces including paving: amenity grassland and a central flower border: fringe habitat containing introduced shrubs and the semi-mature trees against the perimeter wall: and finally the building of the former Coal Office. Key features of these are noted below in Table 3.

Table 3: Summary of Phase 1 Habitat Notes

Habitat	Phase 1 Classification	Description of Area and Typical Species
Type 1	J5 Other habitat: Hard-standing and paving	Paved and hard surfaced areas to either side (north and south) and the front (east side) of the former Coal Office building containing grass species and groundsel (*Senecio vulgaris*) and shepherd's purse (*Capsella bursa-pastoris)*
Type 2	J1.2 Amenity grassland J1.1 Arable (flower bed)	The amenity grassland contains annual meadow grass (Poa annual) and also evident is daisy (*Bellis perennis*) and dandelion (*Taraxacum agg.*). A central flower bed was planted up with marigold (*Calendula sp.*) and *alyssum* around a small conifer tree.
Type 3	J1.4 Introduced shrub J2.5 Wall	Fringe habitat of introduced garden shrubs around the edge of the grassland and along the inside of the perimeter wall. Dominant species are *fuchsia*, castor oil plant (*Fatsia japonica*), and variegated laurel (*Aucuba japonica)*. This habitat includes a small number of semi-mature trees - cherry (x4) (*Prunus sp.*), and hornbeam (x5) (*Carpinus betulus*). A low level stone wall with a small number of species including ivy (*Hedera helix*), ivy leafed toadflax (*Cymbalaria muralis*) and maidenhair spleenwort (*Asplenium trichomanes*).
Type 4	J3.6 Building	The former Coal Office building has a series of pitched roofs and an area of flat roof to the rear (west) elevation where a small patch of grass (*Poa sp.*) has established itself on the roof covering.

8.3 A coloured Phase 1 habitat map was produced (see Appendix V). Species present on site are common and wide-spread and a list of 43 plant species in shown in Table 6 (see Appendix VI), which includes cultivated flowering plants. The site as a whole is considered to be of moderate ecological interest due to the presence of trees suitable to support nesting birds. The grassland is of low ecological value and the area of introduced shrub contains cultivated shrubs and flowering plants also of low ecological value.

8.4 A low number of bird species were recorded on the survey site: house sparrow (*Passer domesticus*), wren (*Troglodytes troglodytes*) and pigeon (*Columba livia*). House sparrows were seen flying in and out from behind the fascias of the building on the west facing elevation, in the roof valley area during the December 2017 survey.

8.5 The presence of protected species such as reptiles, badger and dormouse was assessed. The site is unsuitable to support any of these species due to a lack of suitable habitat and its location in the centre of the town where it is isolated from linking natural habitat. It is a small site with constant human access and it is managed to provide an attractive garden feature with regular planting, mowing and maintenance work going on.

8.6 Inspection of the Coal Office commenced with the interior, and in particular the attic and loft areas. The surveyors noted discarded butterfly wings, mainly small tortoiseshell butterfly (*Aglais*

urticae) in the main corridor area of the attic. These were found in several places against an internal wall, but did not correspond to any other evidence of species such as bats or spiders. However, only wings were present, the bodies having apparently been consumed. There is access to this area for bats, through a number of holes in the ceilings.

8.7 Examination of the main loft revealed the presence of approximately 30 bat droppings scattered around the area of the northern gable end wall. Most of these droppings were consistent with the presence of one of the pipistrelle bat species (*Pipistrellus sp.*). Samples were taken for DNA analysis if required. One of the bat droppings found was larger than the others, and similar to the type of droppings produced by one of the long-eared bat species (*Plecotus sp.*). No bats were seen within the lofts which could be inspected, and no other evidence of use (e.g. fur oil staining) was noted. Day light could be seen at the eaves around the loft areas in several locations, and it was apparent that there was considerable potential for bats to access the tops of the walls and lofts, all around the structure.

8.8 Following normal practice, the building was assessed for its potential to be used during winter for hibernation purposes. Such use was assessed to be negligible, with no obvious access points to the lower walls. The maritime location, with highly variable temperature changes, would also make it an unlikely location for hibernation to be successfully achieved.

8.9 Results of the two dusk observations conducted in early and late May 2018 were unusual in that no bat activity was heard or recorded in the observation zone during the dusk survey visits. To say the least, this is unusual, and is the first time in the author's experience where no bat presence was noted. Consequently, no data was gathered by this means. Therefore it was not possible to identify bat access/exit points.

8.10 In the absence of data from the dusk observations, a sample of bat droppings was submitted for DNA analysis at the Life Sciences Department of University of Warwick. The result returned a determination of brown long-eared (*Plecotus auritus*), as shown in Figure 4 (see Appendix VII).

8.11 House sparrows were seen entering and existing at several locations and this repetitive behaviour is typical of breeding activity. Nest sites are noted on the west elevation on the edge of the roof structure at the point of the valley between the two wings of the roof; at the eaves behind the downpipe near the south-west corner; at the eaves near the south-east corner; and at the apex of the gable on the front (east) elevation.

9 Discussion and Conclusions

9.1 The preliminary ecological appraisal established that the building is a bat roost, with evidence of bat droppings in the loft space at the northern end. From the appearance of the droppings, common pipistrelle or soprano pipistrelle bats were identified. Some larger droppings were also noted and it was not surprising that the DNA analysis recorded the presence of brown long-eared bat (*Plecotus auritus*). A small quantity of *circa* 30 droppings was found, but no bat activity occurred during either of the dusk observations in May 2018. The loft, with a timber framed roof and slate roof coverings, is typical of the space that these bat species will use, and it is concluded that the building is an occasional day roost with likely access points at the ridge, around the north chimney, and around the edge of the north facing gable wall.

9.2 All bats species and their places of rest are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017. The legal protection for bats concerns impacts from disturbance, loss of roost locations, modifications to roosts and loss of access or obstruction to roost locations. If impacts of this nature will arise then a European Protected Species (EPS) licence will be required from Natural Resources Wales (NRW) before any work is done which affects roosts and the bat exit/entry points.

9.3 The full scope of the renovation of the Coal Office is not known at this time, but it is expected to require repair to the attic room ceilings, introducing additional roof insulation, repairs to masonry and chimneys, repairs or replacement fascia boards, and new or repaired roof coverings. If the loft space is retained in its current size and layout, retaining bat access points around the north wall and north ridge around the chimney, and making use of bat friendly materials, and a bat friendly timetable, keeping roof repairs to the winter period when disturbance of bats is avoided, the need for an EPS licence can be avoided. Advice is given below on how these avoidance

measures must be implemented. If they cannot be adhered to in full, then it will be necessary to obtain an EPS licence from Natural Resources Wales in order to avoid an unlawful act occurring.

9.4 Presence of bats at other times of year apart from the summer was considered. No low level features offering hibernation potential were noted elsewhere within the structure and as indicated above, such use was assessed to be negligible.

9.5 When the nature conservation significance of the building is considered against recognised criteria (Bat Mitigation Guidelines 2004 and Good Practice Guide: NRW Approach to Bats and Planning October 2015), the nature conservation status of the site is assessed to be low, due to the presence of common species – brown long-eared and a pipistrelle species of bat. The scale of the impact of the development will affect a small number of animals, with a low risk of detrimental impacts to the conservation status at a local level.

9.6 The Memorial garden at the southern end of the Coal Office is relatively species rich in terms of numbers of plants, and is notable for the trees planted as a memorial to lives lost in past armed conflicts. However, many of the plants in this area are garden cultivars, and are of low ecological value. The trees have more value that the rest of this area, and overall the garden is judged to be of moderate ecological value.

9.7 Breeding birds must also be taken into account. House sparrows were seen to enter the Coal Office building, and four locations were identified as nest sites. The house sparrow is listed on the red list of the British Trust for Ornithology listing of Birds of Conservation Concern. All breeding birds are legally protected, and once a nest is established it is an offence to disturb or destroy the nest. General advice for the legally protected status of breeding birds is given below.

9.8 With respect to other protected species, the site is not regarded as being suitable to support species such as badger, dormice, reptiles and amphibians. Consequently no additional actions are required with respect to these animals.

10 Recommendations

10.1 Survey has identified that the development has potential to affect the bat roosts in the loft, and the nest locations of breeding house sparrows. To address the issues that these legally protected species present, recommendations are made below. The advice concerning bats is made in order to avoid obtaining an EPS licence. If it is not possible to adhere to these recommendations, an EPS licence must be obtained to comply with the legal protection afforded to bats and their roosts.

10.2 The status (size, volume and layout) of the loft of the Coal Office building must remain unchanged. No new installations for heating or plumbing can be installed in the loft, and only new or additional insulation material on the floor of the loft is acceptable. Bat access points must be retained or regularised, by creating small gaps of dimensions 20 x 30mm at the apex of the north gable wall, and also to either side (roughly 500mm down the slope of the roof) of the north gable, to either side of the apex. Also a gap of the same dimensions must be formed beneath the ridge of the roof beside the north chimney (see Appendix VIII).

10.3 If a new roof frame is to be introduced it must be a similar style to the existing. A trussed rafter arrangement is not acceptable as the loft must remain a large and uncluttered internal space – essential for brown long-eared bats. If a lining membrane is to be fitted, it must be bat friendly 1F sanded bitumen. Modern breathable membranes are often light in colour and in weight with low thermal retention properties; they can sag into pockets and can have a smooth and shiny finish which offers no purchase to bats. Research has demonstrated that none of the modern breathable membranes currently on the market are safe to use in bat roosts and that all present a potentially lethal threat to bats.

10.4 New or retained roof coverings must be a slate or slate type finish to attract natural solar gain. The gaps described as bat access points above must enable bats to access the internal space of the loft as well as the space created by the battens between the slates and the lining membrane. For the bat access point at the ridge, it will be necessary to cut a slot in the lining membrane 20 x 40mm, to facilitate bat access into the loft. The slot in the lining membrane must be offset from the ridge access gap by 100mm, to reduce draughts and loss of warm air.

10.5 New or replacement timbers for the roof frame and fascia boards must be checked to ensure there is no use of chemicals harmful to bats. New fascias must not be made of uPVC. If a new

roof covering or new ridges are fitted, it must not be a dry ridge arrangement, as this does not accommodate the type of bat access points which bats typically exploit.

10.6 A bat friendly timetable means that all work affecting the loft and the roof must be undertaken and completed in the winter period of 1st October – 31st March. This timing includes any work to replace or repair the attic room ceilings, fit loft insulation, replacement of fascias, replacement of roof coverings, and repair of chimneys or wall plate masonry.

10.7 A Bat Conservation Trust study of the impacts of lighting on bats has considered the increased risk of the bats being preyed on in well illuminated areas. Also, lighting was found to be harmful when present near woodland edges and hedgerows. Inappropriate lighting can result in the isolation of bat colonies and can affect insect behaviour which then adversely affects bats. External lighting features at the northern side of the Coal Office must ensure low output; fitments must be attached to external walls at a low level with all light directed downwards. There must be no upward light spill and shrouds or deflector fittings are a simple way of avoiding this. Lights must be on timers to ensure that lights are extinguished within 30 seconds of movement ceasing. There must be no external light spill onto areas where bat access points are located.

10.8 Building developments often result in the installation of other fitments and fittings, some of which can be harmful to bats. It is essential that no satellite dishes, guttering, vents, lights or air conditioning units are located within close proximity of the bat arrangements at the north gable wall area. A wind turbine, even a micro turbine unit, would not be suitable at this location given the presence of bat roost locations.

10.9 If these recommendations are not compatible with the scope and timetable for the scheme of development, then an EPS licence must be obtained from Natural Resources Wales. An application for a licence can only be made once planning consent is granted, and can take several weeks to put together. Considerable supporting documentation is needed including the licence application forms; a detailed Ecological Method Statement (providing information on the survey effort with recent survey data not older than 18 – 24 months), and details of the local status of the species concerned; the duties of an independent experienced Ecological Clerk of Works (ECW); as well as the duties and responsibilities of the various contractors (e.g. builders, carpenters, electricians, plumbers etc), and the owner/developer of the site. A local planning authority consultation document must also be completed and signed. NRW do not currently make a charge for issuing a licence but this circumstance is likely to change in the future.

10.10 All breeding birds are legally protected, and once a nest is established it is an offence to disturb or destroy an active nest. The nesting season for birds is recognised as the period from March to August inclusive. If repair work or modifications around the eaves of the building are planned for this time of year, there is a high risk of negative impacts on breeding house sparrow. If any work at the eaves must proceed during the bird nesting period, it is recommended that the gaps they are utilising are obstructed by mesh or netting in the winter period prior to the commencement of the breeding season, to prevent active nests becoming established. As an enhancement for breeding sparrows, it is recommended to install a sparrow terrace nest box at the eaves of the renovated building on either the north or east wall, so as to avoid full sunlight.

10.11 Development of an area gives the opportunity to carry out enhancements to benefit wildlife, especially during the landscaping process. Where possible, species used must be native. Table 4 below includes a list of suitable native tree and hedgerow species, which it may be possible to include within any landscaping proposals. These plants have characteristics that are beneficial to biodiversity. It is essential that such plants are sourced locally in order to reduce likelihood of importing diseases.

Table 4: Recommended Native Tree and Shrub Species

Common Name	Scientific Name
Alder	*Alnus glutinosa*
Crab apple	*Malus sylvestris*
Dogwood	*Cornus sanguinea*
Elder	*Sambucus nigra*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Rowan	*Sorbus aucuparia*
Silver birch	*Betula pendula*
Yew	*Taxus baccata*

10.12 Additional species which can be planted, which although not exclusively native species, will bring benefits for wildlife, are included in Table 5 below. Again, only plants from local stockists must be used.

Table 5: Recommended Garden Shrubs

Common Name	Scientific Name
Barberry	*Berberis vulgaris*
Clematis	*Clematis montana* or *Clematis vitalba*
Common broom	*Cytisus scoparius*
Dog rose	*Rosa canina*
Guelder rose	*Viburnum opulus*
Hebe	*Hebe albicans*
Honeysuckle	*Lonicera periclymenum*
Lavender	*Lavandula spp.*
Oregon grape	*Mahonia aquifolium*
Tree cotoneaster	*Cotoneaster 'Coral Beauty'*
Tree cotoneaster	*Cotoneaster Hybridus Pendulus*
Viburnum	*Viburnum davidii*

10.13 It is acceptable for other plant species to be provided on site, as recommended by the landscape architect. However, any planting proposals must include a minimum 70% proportion of the species listed in Tables 4 and 5.

10.14 Most developments include areas of grassland, and whilst some of these will require an amenity grassland seed mix, there are opportunities to sow wildflower grassland areas on parts of the site. To meet these needs it is recommended that the following seed mixes are used. British Seed Houses Mix A24 is a wear and tear mixture suitable for lawns and hard-working areas near to pathways. It contains five species of plant which are suitable for this location. For the wildflower areas the Emorsgate EM3 wildflower seed mix is recommended, with some twenty-five wild plant and grass species.

10.15 In order to benefit insects in particular, it is further recommended that additional seeding in the wildflower areas to encourage and benefit nectar feeding invertebrates, is carried out. An appropriate seed mix is available from Emorsgate – EN1. This mixture includes 23 plant species which can be added to the EM3 mix noted above.

10.16 Furthermore, it is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches and soil conditioners. The use of pesticides (i.e. herbicides, insecticides, fungicides and slug pellets etc) must be discouraged to prevent cumulative fatal effects to animals via the food chain, particularly invertebrates, birds and/or mammals. Any pesticides used must be non-residual.

11 References

Aebisher, N.J., Brown, A.F., Eaton, M.A., Evans, A., Gibbons, D.W., Gregory, R.D., Hearn, R., Musgrove, A.J. and Noble, D.G. (2009). '*Birds of Conservation Concern 3: The Population Status of Birds in the United Kingdom, Channel Islands and the Isle of Man*'. British Trust for Ornithology, Thetford

Bat Conservation Trust. (2007). '*Bats and Lighting in the UK*'. Bat Conservation Trust, London

Collins, J. (Ed.) (2016). '*Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3rd Edition.*' Bat Conservation Trust, London

Joint Nature Conservation Committee (1993). '*Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*'. JNCC, Peterborough

Mitchell-Jones, A.J. (2004). '*Bat Mitigation Guidelines*'. English Nature, Peterborough

Mitchell-Jones, A.J. (1992). '*Focus on Bats*'. English Nature, Peterborough

Mitchell-Jones A.J. and McLeish A.P. (2004). '*The Bat Workers Manual, 3rd Edition*', English Nature, Peterborough

Ninnes, R. (2015). '*NRW Approach to Bats and Planning*', Natural Resources Wales, Bangor

Rose, F. (1981). '*The Wild Flower Key*'. Frederick Warne, London

Russ, J. (2012). '*British Bat Calls: A Guide to Species Identification*'. Pelagic Publishing, Exeter

Streeter, D. (2009). '*Collins Flower Guide*'. Harper Collins, London

Williams, C. (2010). '*Biodiversity for Low and Zero Carbon Buildings: A Technical Guide for New Build*'. RIBA Publishing, London

Appendix I: Site Location Plan

Figure 1: Site location plan

Aerial view of the site

Legend
Site location
Site boundary
Project reference: GEN3917
Site name: Ocean Square, Saundersfoot
Prepared by: GD / Checked by: PM
Map scale: 1:25000 & 1:2500
Source: © Google Satellite Imaging (2017) © Crown copyright and database rights (2017) Ordnance Survey (100055034)

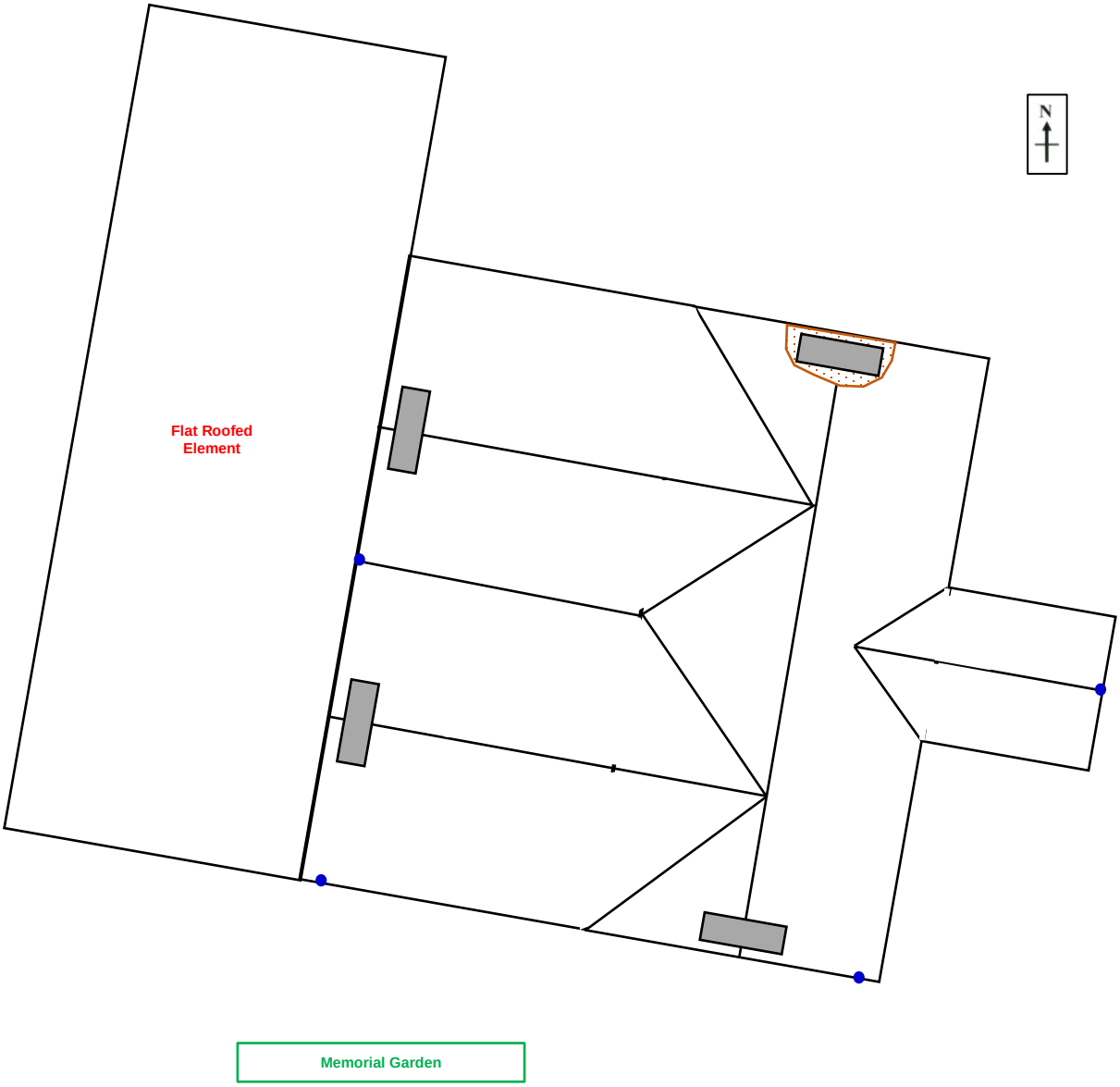
Just MAMMALS Consultancy
Limited Liability Partnership

Appendix II: Evidence of Bat Roost

Roost location:	**The Coal Office, Ocean Square, The Harbour, Saundersfoot SA69 9HE**	
Survey date(s):	Day survey:	11th December 2017 Diane Morgan, Phil Morgan (Just Mammals Consultancy LLP)
	Dusk observations:	2nd May 2018 Diane Morgan, Phil Morgan, Robert Morgan (Just Mammals Consultancy LLP) 22nd May 2018 Phil Morgan, Jim Hoskins, Phoebe Williams (Just Mammals Consultancy LLP)
Description:	A building with ground floor, first floor and attic room accommodation with loft space above, built in stone with a timber framed roof covering with slate with no lining membrane. The main ridge line runs north/south, with two wings extending to the west forming a double ridge and valley layout. A single storey flat roofed extension is attached to the west side.	
Actual and potential bat access points:	Gaps were noted at eaves level around edge of the roof	
Actual and potential bat roosting sites:	Beneath the ridge and around the edge of the north gable wall.	
Species and number recorded:	No bat emerged from the building	
Droppings recorded:	*Circa* 30 old droppings, some small pipistrelle droppings and others larger and identified by DNA analysis as brown long-eared bat.	

Appendix III: Building Plan

Figure 2: Plan of building



Not to Scale

Key:

= Bat droppings

= Chimneys

= Approximate location of observers

= Approximate location of house sparrow nests

Appendix IV: Site Photographs

Plate 1: Coal Office front or eastern aspect

Plate 2: Coal Office northern elevation

Plate 3: Coal Office southern elevation

Plate 4: Coal Office and Shops viewed from Cambrian Place

Plate 5: Coal Office and adjacent Memorial Garden

Plate 6: Flat roof above shops

Plate 7: Discarded butterfly wings in attic area

Plate 8: Main loft space

Plate 9: Bat droppings on loft floor

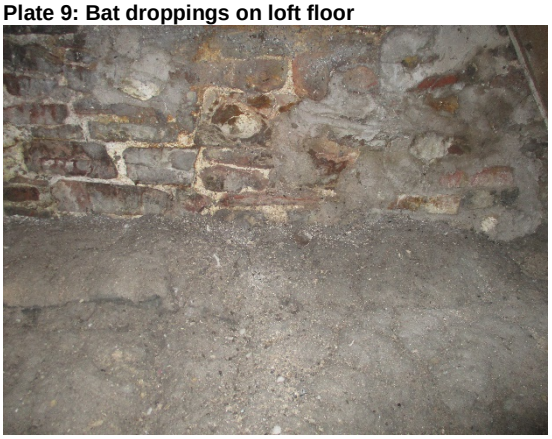


Plate 10: Gaps at eaves of roof

Plate 11: Gaps in attic ceilings

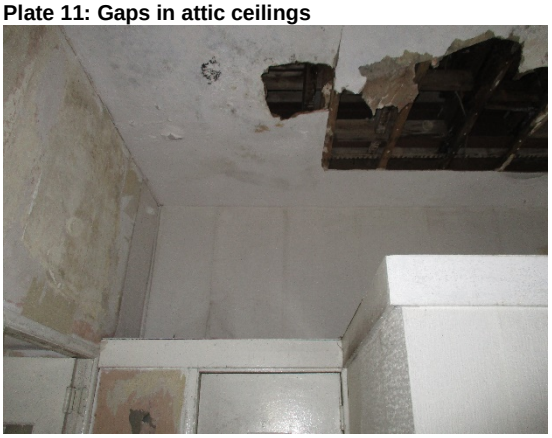
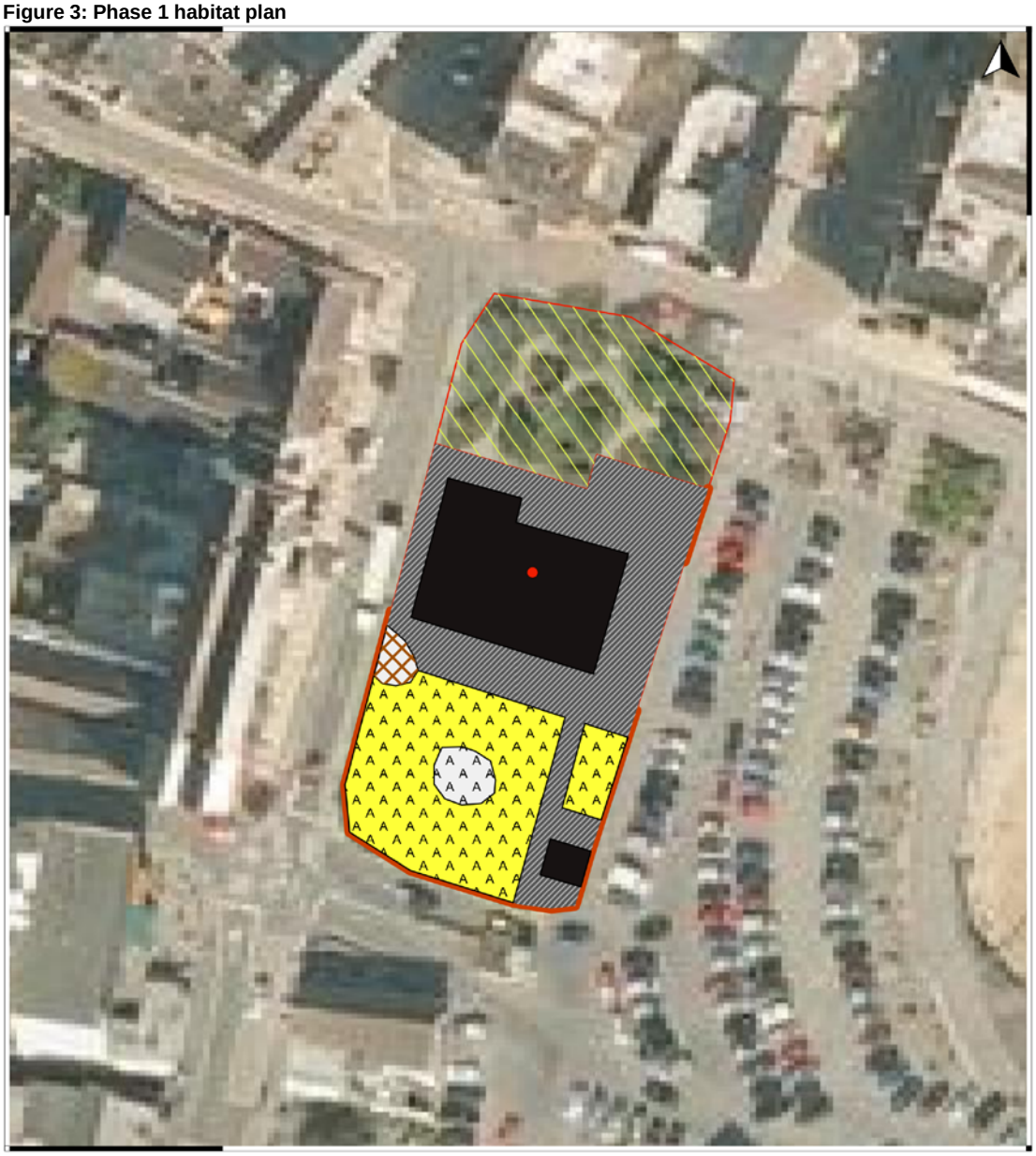


Plate 12: Memorial garden area

Appendix V: Phase 1 Habitat Plan

Figure 3: Phase 1 habitat plan



Phase 1 Habitat Survey Map

Legend

- Site boundary
- Sensory garden - not included in survey
- J1.1 - Cultivated/arable land
- J1.2 - Amenity grassland
- J1.4 - Introduced shrub
- J2.5 - Wall
- J3.6 - Building
- J5 - Hard standing

Site name: Ocean Square, Saundersfoot	
Project reference: GEN3917	
Map scale: 1: 1000	
Source: © Google Satellite Imaging (2017)	Just MAMMALS Consultancy Limited Liability Partnership

Appendix VI: Species List

Table 6: Species List

Common Name	Scientific Name	1	2	3	4
Alyssum	*Alyssum sp.*		✓		
Ash	*Fraxinus excelsior*			✓	
Barberry	*Berberis*			✓	
Buttercup, Creeping	*Ranunculus repens*		✓		
Butterfly bush	*Buddleja davidii*	✓		✓	
Celandine Lesser	*Ranunculus ficaria*	✓			
Cherry, A	*Prunus sp.*			✓	
Clover A	*Trifolium sp.*		✓		
Columbine	*Aquilegia vulgaris*			✓	
Conifer, A	*Coniferophyta spp.*		✓		
Cranesbill	*Geranium sp.*		✓		
Daisy	*Bellis perennis*		✓		
Dandelion	*Taraxacum agg.*		✓		
Dogwood	*Cornus sanguinea*			✓	
Fatsia	*Fatsia japonica*			✓	
Fuchsia	*Fuchsia sp.*			✓	
Groundsel	*Senecio vulgaris*	✓			
Heather	*Erica sp.*			✓	
Herb-Robert	*Geranium robertianum*			✓	
Himalayan honeysuckle	*Leycesteria formosa*			✓	
Holly	*Ilex aquifolium*			✓	
Hornbeam	*Carpinus betulus*			✓	
Ivy	*Hedera helix*			✓	
Ivy (variegated cultivar)	*Hedera sp.*			✓	
Laurel (spotted cultivar)	*Aucuba japonica*			✓	
Mahonia	*Mahonia*			✓	
Maidenhair spleenwort	*Asplenium trichomanes*			✓	
Marigold	*Calendula sp.*		✓		
Meadow-grass, Annual	*Poa annua*	✓			✓
Photinia	*Photinia sp*			✓	
Plantain, Greater	*Plantago major*	✓	✓		
Plantain, Ribwort	*Plantago lanceolata*		✓		
Poppy	*Papaver sp.*		✓		
Rose, A	*Rose sp.*			✓	
Rye-grass, Perennial	*Lolium perenne*		✓		
Shepherd's-purse	*Capsella bursa-pastoris*	✓			
Sorrel, A	*Rumex sp.*	✓			
Thistle creeping	*Cirsium arvense*			✓	
Thistle smooth sow	*Sonchus oleraceus*			✓	
Toadflax ivy leaved	*Cymbalaria muralis*			✓	
Veronica (four varieties)	*Hebe sp*			✓	
Willowherb rosebay	*Chamerion angustifolium*	✓			
Yucca	*Yucca sp.*			✓	
Fauna					
House sparrow	*Passer domesticus*				
Wren	*Troglodytes troglodytes*				
Feral pigeon	*Columba livia*				

Appendix VII: DNA Analysis Result

Figure 4: DNA analysis results

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

21 May 18

Re: Identification Results for Diane Morgan, Just Mammals Consultancy

Job number 11716, received 08 May 2018
Sample labelled: Coal Office, Saundersfoot, loft at NE end of bldg. 11/12/17
PCR amplification successful. DNA sequence:
ATGACCAACATTCGAAAGTCCCACCCTCTCATAAAAATTATCAATGACTCATTCATTG
ACTTACCTGCTCCCTCAAATATTTCATCATGATGAAACTTTGGATCTCTTCTAGGCATT
GCCTAGCACTAC

Phylogenetic analysis identification: *Plecotus auritus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

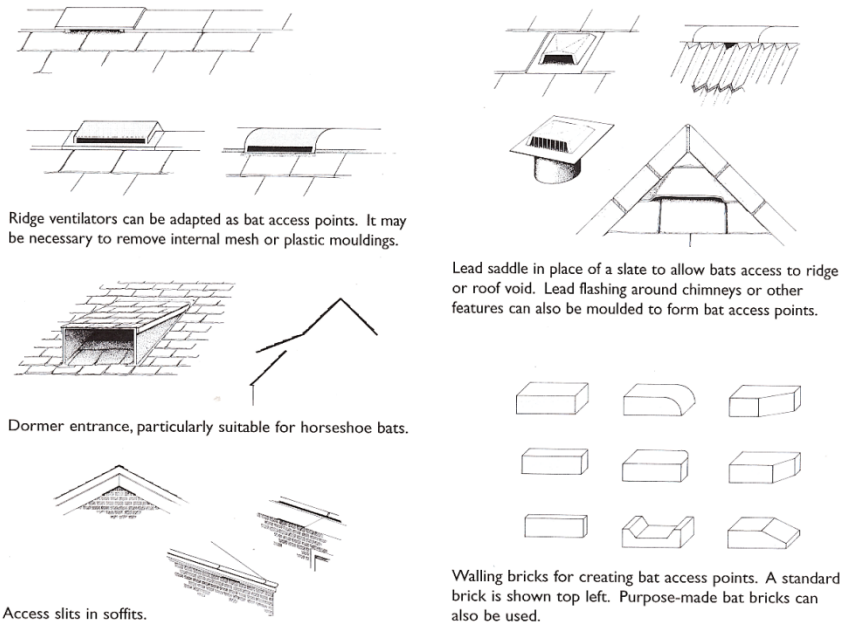
The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

School of Life Sciences,
Gibbet Hill Campus,
University of Warwick,
Coventry CV4 7AL
Tel: 02476575059
Fax: 02476574500
Email: r.g.allaby@warwick.ac.uk

Appendix VIII: Bat Mitigation Features

Figure 5: Bat mitigation features



Ridge ventilators can be adapted as bat access points. It may be necessary to remove internal mesh or plastic mouldings.

Lead saddle in place of a slate to allow bats access to ridge or roof void. Lead flashing around chimneys or other features can also be moulded to form bat access points.

Dormer entrance, particularly suitable for horseshoe bats.

Access slits in soffits.

Walling bricks for creating bat access points. A standard brick is shown top left. Purpose-made bat bricks can also be used.

Plate 13: Example of bat access slit at gable wall fascia

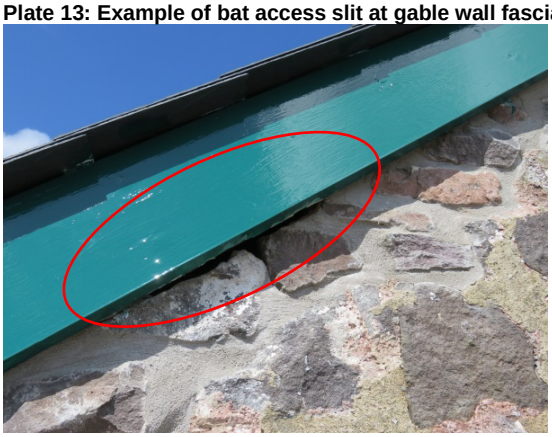
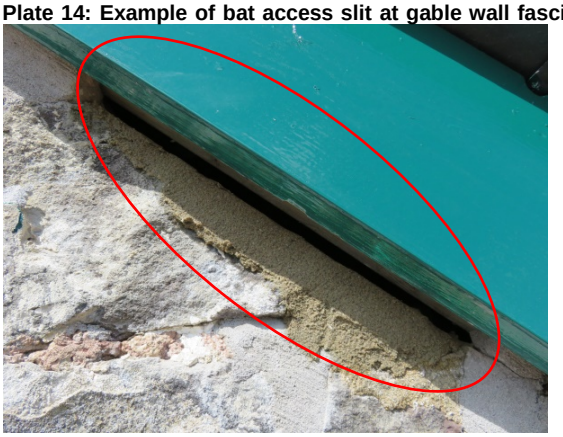


Plate 14: Example of bat access slit at gable wall fascia



Appendix IX: Ecology of British Bats

There are at least 18 species of bats breeding in Britain. Most of them are regarded as threatened due to a variety of factors including habitat loss, intolerance and disturbance/damage or loss of roosts. Of these species a number regularly use buildings at certain times of year in order to find safe secure roost sites. Often several different species can use a building over the course of the year, and not all species are present at the same time, making assessment of their presence complex.

Bats are highly mobile flying mammals, which in Britain, feed entirely on insects. They have evolved over seventy million years and have developed sophisticated mechanisms to allow them to effectively 'see' in the dark by using sound waves. This system is called echo-location which enables them to track and hunt down small moving insects whilst in flight, rather like radar does in a modern military fighter aircraft. It is possible to record this sound, and because each species of bat echo-locates in a different way, determine what the species is without actually handling the animal which made the call.

In winter, when their prey is scarce, British bats hibernate or enter torpor, in cool parts of caves, buildings (cavity walls), and tree cavities. They may wake occasionally and will feed if evening temperatures are greater than 7°C, when flying insects can be active. Generally however, activity during cold winters is very limited and bats only become fully active in spring, with late March and early April being a critical time for animals desperately trying to save energy whilst gaining weight. Disturbance during these months can therefore be more devastating to bats than at other times of year.

By late spring female bats will gather together in maternity roosts in order to give birth and rear their single baby in June. Such maternity roosts are often near to important foraging areas in order to save energy as flight requires vast energy resources. Flight routes to and from such roosts can therefore also be important and some bats are extremely light averse preferring dark locations without street or security lamps which can force them to take complex routes to reach foraging areas. Such lighting can also badly degrade foraging areas where they occur close to buildings and hedgerows and tree lines can be particularly important areas for bat foraging to take place particularly when close to the roost building.

Whilst females form maternity colonies, usually in warmer roofs or trees, male bats tend to seek out cooler sites which may not be so close to the foraging areas. Males are often solitary and do not exhibit the social behaviour that marks out females during the birthing period. Non-breeding females will also roost in this way, when they have no need to spend energy on raising a single baby.

Several British bat species are known to rely heavily on buildings to roost. Of these species, the most likely are the soprano pipistrelle bat and the common pipistrelle. Other bat species regularly found in buildings are the brown long-eared bat; Natterer's bat; Brandt's bats and whiskered bat. Pipistrelle species and the small myotid or mouse-eared species (Brandt's, whiskered etc) often favour locations at the ridge or around the exterior shell of the structure. Brown long-eared and Natterer's tend to prefer living within the roof area of a building – large lofts being popular.

Other species that are known to use the internal areas of built structures such as barns include the two horseshoe species, the greater horseshoe bat, and lesser horseshoe bat, as well as Western barbastelle bat (*Barbastella barbastellus*).

Appendix X: Relevant Legislation

All species of bat in Britain, and their places of rest are protected under the provisions of the Wildlife and Countryside Act 1981 (WCA), Section 9(1), 9(4)(a) and 9(4)(b) as amended by Schedule 12 of the Countryside and Rights of Way Act 2000. Further protection is afforded by the Conservation of Habitats and Species Regulations 2017. In relation to structures used by bats for shelter or protection (i.e. roosts), this legislation makes it an offence to either intentionally or recklessly damage, destroy or obstruct access to any site used by bats, whether bats are present at the time or not, or to intentionally or recklessly disturb bats within a roost.

Infringements under this legislation include building demolition, removal of hollow trees, blocking, filling or installing grills over old mines or tunnels, building alteration or maintenance work, re-pointing of stone walls, getting rid of unwanted bat colonies, re-roofing, remedial timber treatment, re-wiring or plumbing in roofs, treatment of wasps, bees or cluster flies (Mitchell-Jones, 1992; Childs, 2001). Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, greater mouse eared bat and barbastelle are included in Annex II of the Conservation of Habitats and Species Regulations 2017 and hence require special protection.

Maximum penalties for committing offences relating to bats or their roosts can amount to imprisonment for a term not exceeding six months or to fines of up to Level 5 on the standard scale under the Criminal Justice Act 1982/1991 (i.e. £5000 in April 2001) per roost or bat disturbed or killed, or to both. Bodies corporate and their directors/secretaries are liable for offences under the 2017 Regulations and the WCA. Additionally, where such an offence results in the offender benefitting in a monetary form from the illegal action, confiscation or civil recovery of the proceeds can occur under the Proceeds of Crime Act 2002.

It is sensible to assess as soon as possible if bats are present at potential sites for development – preferable before the land is acquired. In some cases the period required for adequate survey work may span more than one calendar year. If a development, including demolition or change of use, is likely to impact on bats and their roosts then a licence will usually be required. Adequate survey results are a necessary input to any licence application. If bats are not found until late in the development stage this may result in delays while a licence is sought and even in offences being committed.

The law with respect to dwellings and other structures is applied equally. Where disturbance is deemed likely to have a significant effect on bats to survive, breed and rear their young or will affect the local distribution and abundance of the species, a European Protected Species licence issued by Natural Resources Wales. A licence application must demonstrate that the development will not be detrimental to the maintenance and conservation status of the species concerned.

This explanation must be regarded only as a guide to the law. For further details, reference must be made to the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 and the Countryside and Rights of Way Act 2000.

Appendix XI: European Protected Species Licences

Under the Conservation of Habitats and Species Regulations 2017 a licence can only be issued if Natural Resources Wales are satisfied that:

- there are imperative reasons of overriding public interest including those of a social or economic nature;
- there is no satisfactory alternative, and;
- the action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

Natural Resources Wales will require a copy of the full planning consent, as well as an explanation of why there is a need to carry out the proposed work and what alternative solutions have been considered (e.g. other sites) and why they have been discounted. The alternative of retaining the roost within the development must be considered. The last point will depend on the possibility of implementing appropriate mitigation and on assurances that it can be and will be carried out and maintained and the results monitored. Natural Resources Wales aim to process applications within 30 working days, but in practice licences often take longer depending on the number of applications being processed at any one time. NRW do not currently make a charge for issuing a licence but this circumstance is likely to change in the future.

This ecological survey report has been produced by the Just Mammals Consultancy LLP for Saundersfoot Harbour Commissioners solely. It may not be used by any person for any other purpose other than that specified without the express written permission of the Just Mammals Consultancy LLP. Any liability arising out of use by a third party of this document, for purposes not wholly connected with the above, shall be the responsibility of that party, who shall indemnify the Just Mammals Consultancy LLP against all claims, costs, damages, and losses, arising out of such use.

Unless specifically assigned or transferred within the terms of agreement, the consultant asserts and retains all Copyright, and other Intellectual Property Rights, in and over the ecological survey report and its contents.

We confirm that in preparing this ecological survey report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions, the degree of manpower and resources allocated to the project, and in compliance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

This ecological survey report is valid for a period of two years from the front cover date.

Just Mammals Consultancy is an ecological consultancy based in Mid-Wales. Specialising in legally protected mammal, reptile and amphibian species, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

Clients include government departments, local and regional authorities, development agencies, commercial and industrial enterprises as well as statutory nature conservation organisations, wildlife trusts and other charitable bodies.

Please visit our web site www.justmammals.co.uk to see the full range of services we offer and some of the projects we have undertaken in the past.